

September 04, 2015

Tom Moe
USS Corporation
P.O. Box 417
Mountain Iron, MN 55768

RE: Project: NPDES-LINE 3 Wk1
Pace Project No.: 1252320

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on August 26, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Terri Sabetti, Northeast Technical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

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SAMPLE SUMMARY

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1252320001	WS-003 Thickener Overflow	Water	08/26/15 08:30	08/26/15 14:00
1252320002	WS-003 Thickener Overflow	Water	08/26/15 08:30	08/26/15 14:00
1252320003	WS-002 Scrubber Make-Up	Water	08/26/15 08:30	08/26/15 14:00

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SAMPLE ANALYTE COUNT

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1252320001	WS-003 Thickener Overflow	EPA 300.0	DMB	2	PASI-V
1252320002	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1252320003	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

Sample: WS-003 Thickener Overflow		Lab ID: 1252320001		Collected: 08/26/15 08:30		Received: 08/26/15 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	664	mg/L	10.0	5.0	10		09/02/15 04:00	16887-00-6	
Fluoride	5.6	mg/L	1.0	0.24	10		09/02/15 04:00	16984-48-8	

Sample: WS-003 Thickener Overflow		Lab ID: 1252320002		Collected: 08/26/15 08:30		Received: 08/26/15 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Calcium, Dissolved	912	mg/L	5.0	0.29	10	09/02/15 11:43	09/03/15 11:52	7440-70-2	
Magnesium, Dissolved	47.6	mg/L	5.0	0.67	10	09/02/15 11:43	09/03/15 11:52	7439-95-4	
Total Hardness, Dissolved	2470	mg/L	100	50.0	10	09/02/15 11:43	09/03/15 11:52		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	1970	mg/L	40.0	1.8	20		09/02/15 04:23	14808-79-8	

Sample: WS-002 Scrubber Make-Up		Lab ID: 1252320003		Collected: 08/26/15 08:30		Received: 08/26/15 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Calcium, Dissolved	84.7	mg/L	5.0	0.29	10	09/02/15 11:43	09/03/15 12:02	7440-70-2	
Magnesium, Dissolved	194	mg/L	5.0	0.67	10	09/02/15 11:43	09/03/15 12:02	7439-95-4	
Total Hardness, Dissolved	1010	mg/L	100	50.0	10	09/02/15 11:43	09/03/15 12:02		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	761	mg/L	20.0	0.89	10		09/02/15 04:46	14808-79-8	

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

QC Batch: MPRP/5780

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1252320002, 1252320003

METHOD BLANK: 243095

Matrix: Water

Associated Lab Samples: 1252320002, 1252320003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	09/03/15 10:39	
Magnesium, Dissolved	mg/L	ND	0.50	09/03/15 10:39	

LABORATORY CONTROL SAMPLE: 243096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	47.2	94	85-115	
Magnesium, Dissolved	mg/L	50	46.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 243097 243098

Parameter	Units	1252492001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	97.9	50	50	149	145	102	94	70-130	3	20	
Magnesium, Dissolved	mg/L	226	50	50	287	272	123	93	70-130	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 243099 243100

Parameter	Units	1252515008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	28.5	50	50	75.5	74.1	94	91	70-130	2	20	
Magnesium, Dissolved	mg/L	14.1	50	50	59.9	58.8	92	89	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

QC Batch: WETA/13447 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1252320001, 1252320002, 1252320003

METHOD BLANK: 242615 Matrix: Water

Associated Lab Samples: 1252320001, 1252320002, 1252320003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/01/15 20:21	
Fluoride	mg/L	ND	0.10	09/01/15 20:21	
Sulfate	mg/L	ND	2.0	09/01/15 20:21	

LABORATORY CONTROL SAMPLE: 242616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.7	99	90-110	
Fluoride	mg/L	5	4.7	94	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 242617 242618

Parameter	Units	1252425030 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.9	50	50	59.3	59.3	103	103	90-110	0	20	
Fluoride	mg/L	0.19	5	5	5.0	5.0	95	96	90-110	0	20	
Sulfate	mg/L	13.2	50	50	63.6	63.6	101	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 242619 242620

Parameter	Units	1252096001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.0	50	50	55.4	55.4	103	103	90-110	0	20	
Fluoride	mg/L	0.16	5	5	4.9	4.9	96	96	90-110	0	20	
Sulfate	mg/L	54.1	50	50	104	104	100	100	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-LINE 3 Wk1

Pace Project No.: 1252320

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1252320002	WS-003 Thickener Overflow	EPA 200.7	MPRP/5780	EPA 200.7	ICP/4534
1252320003	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/5780	EPA 200.7	ICP/4534
1252320001	WS-003 Thickener Overflow	EPA 300.0	WETA/13447		
1252320002	WS-003 Thickener Overflow	EPA 300.0	WETA/13447		
1252320003	WS-002 Scrubber Make-Up	EPA 300.0	WETA/13447		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields

Section A

Required Client Information:

Company: **USS Corporation**
Address: **P.O. Box 417**
Mountain Iron, MN 55768
Email: **tno@uss.com**
Phone: **(218) 749-7485** Fax:
Requested Due Date:

Section B

Required Project Information:

Report To: **Tom Moe**
Copy To:
Purchase Order #:
Project Name: **NPDES-LINE 3 WK1**
Project #:

Section C

Invoice Information:

Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: **heather.zika@pacelabs.com**
Pace Profile #:

MO# : 1252320
PM: **HRZ** Due Date: **09/10/15**
CLIENT: **USS CORP**

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample ids must be unique	MATRIX CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	COLLECTED		START		END		SAMPLE TEMP AT COLLECTION		PRESERVATIVES		ANALYSES TEST		Residual Chlorine (Y/N)	LAB FILTERED/LAB FILTERED	LAB FILTERED/LAB FILTERED	
			MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	DATE	TIME	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH				Na2S2O3
1	WS-003 Thickener Overflow	WT	8/16/15	08:30	8/16/15	08:30												
2	WS-002 Scrubber Make-Up	WT	8/16/15	08:30	8/16/15	08:30												
3	WS-003 Thickener Overflow	WT	8/16/15	08:30	8/16/15	08:30												
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		


RECEIVED BY/INITIALS	DATE	TIME	ACCEPTED BY/INITIALS	DATE	TIME	SAMPLE CONDITIONS
<i>Paulina</i>	8-16-15	1400	<i>Paulina</i>	8/16/15	1400	20

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>Paulina</i>	SIGNATURE of SAMPLER: <i>Paulina</i>				

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 Of 1

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER	Henry Mac
SIGNATURE of SAMPLER	Henry Mac
DATE Signed:	8/27/15
TEMP IN C	
Received on ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

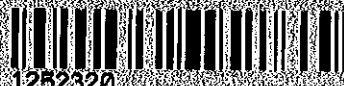
**Sample Condition
Upon Receipt**

Client Name:

USS Corporation

Project #:

WO# : 1252320



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No

Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.0 Cooler Temp Corrected °C: 2.3

Biological Tissue Frozen? ☐ Yes ☒ No ☐ NA

Temp should be above freezing to 6°C

Correction Factor: 0.3

Date and Initials of Person Examining Contents: 8/26/15 CER

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>W</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Kath for mmmw

Date:

8-28-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)